

Appl. No. 09/353,423
Supp. Amdt. dated November 30, 2004
Reply to Office Action of January 29, 2004

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method of expressing an interferon- α 2b [[alpha]] polypeptide in a liver cancer cell by contacting said cell with a recombinant replication-deficient andenoviral vector, wherein said contacting occurs by directly injecting said vector into a tumor comprising said cancer cell, and wherein said vector comprising comprises a nucleic acid segment encoding an interferon- α polypeptide lacking a secretion leader sequence, the nucleic acid segment being operatively linked to a liver-specific promoter having specificity for the tissue of interest, wherein the interferon- α polypeptide is expressed in active form in the cell.

2-18. (Canceled)

19. (Currently amended) A recombinant vector for expressing an interferon- α polypeptide in a mammalian cell, comprising a nucleic acid segment encoding an interferon- α polypeptide, the nucleic acid segment being operatively linked to a promoter specific for a tissue of interest, wherein the nucleic acid segment encoding the interferon- α polypeptide lacks a secretion leader sequence.

20. (Original) The vector of claim 19, wherein the interferon- α polypeptide is interferon- α 2b.

21. (Original) The vector of claim 19, wherein the interferon- α polypeptide is interferon- α 2- α 1.

22. (Original) The vector of claim 19, wherein the interferon- α polypeptide is a consensus interferon- α polypeptide.

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23. (Original) The vector of claim 20, wherein the promoter is a liver specific promoter.

24. (Original) The vector of claim 20, wherein the promoter is the AFP promoter.

25. (Original) The vector of claim 24 wherein the vector is an adenoviral vector.

26. (Original) The vector of claim 25 wherein the adenoviral vector is replication deficient.

27. (Original) The vector of claim 26 which is rAdNSI- α 2b.

28. (Original) The vector of claim 25 wherein the adenoviral vector is replication competent.

29. (Original) The vector of claim 28 wherein the endogenous adenoviral EI promoter is replaced with the AFP promoter.

30. (Currently amended) A pharmaceutical formulation comprising a recombinant vector for expressing an interferon- α polypeptide in a mammalian cell, comprising a nucleic acid segment encoding an interferon- α polypeptide, the nucleic acid segment being operatively linked to a promoter specific for a tissue of interest, wherein the nucleic acid segment encoding the interferon- α polypeptide lacks a secretion leader sequence.

31. (Original) The formulation of claim 30 wherein the interferon- α polypeptide is interferon α 2b.

32. (Original) The formulation of claim 31 wherein the vector is an adenoviral vector.

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33. (Original) The formulation of claim 32 further comprising a delivery enhancing agent.

34. (Currently amended) A method of ~~killing~~ inhibiting the growth of a hepatocellular carcinoma cell by contacting said hepatocellular carcinoma cell with a recombinant viral vector comprising a nucleic acid segment encoding an interferon- α polypeptide lacking a secretion leader sequence operatively linked to a liver specific promoter, wherein said contacting occurs by directly injecting said vector into a tumor comprising said cell and wherein said vector is internalized by said cell and results in the transcription and translation of said nucleic acid segment in said cell thereby producing an increased intracellular concentration of said interferon- α polypeptide in said cell at a level which causes the death inhibits the growth of said cell.

35. (Canceled)

36. (Previously presented) The method of claim 34 wherein the interferon- α polypeptide is human interferon- α 2b.

37. (Original) The method of claim 36 wherein the vector is a recombinant adenoviral vector.

38. (Original) The method of claim 37 wherein the adenoviral vector is replication deficient.

39. (Original) The method of claim 38 wherein the adenoviral vector is rAdNS1 α 2b.